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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,623	12/01/2000	Ali Mouline	PA1525US	5462

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HAYNES BEFFEL & WOLFELD LLP
P O BOX 366
HALF MOON BAY, CA 94019

EXAMINER	
FAULK, DEVONA E	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/728,623	MOULINE, ALI	
	Examiner	Art Unit	
	Devona E. Faulk	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1,4,5,6,9-11,13-15-18,20** are rejected under 35 U.S.C. 102(e) as being anticipated by Knappe et al. (U.S. Patent 6,061,431).

Regarding **claim 1**, Knappe discloses a method of adapting audio according to a listener's auditory capability (a method for compensating hearing loss in a telephone system on an individual basis according to recognition of a dialing or dialed telephone number), comprising the steps of accessing a personal audio profile of the listener, the audio profile describing the auditory capability of the listener in relation to a plurality of audible frequencies (column 1, lines 40-50); accessing a digital representation of audible sound (column 3, lines 8-20; column 3, lines 50-60); and creating an adapted representation of audible sound by modifying the digital representation based on the audio profile to assist the listener in perceiving the audible sound (column 3, lines 30-35)

Regarding **claim 4**, Knappe discloses initiating a transmission of the adapted representation to the listener (column 5, lines 12-15).

Regarding **claim 5**, Knappe discloses wherein the representation is accessed and the adapted representation is transmitted through a network of computers (column 2, lines 54-66).

All elements of **claim 6** are comprehended by claim 1 (24; Figure 1).

Regarding **claim 9**, Knappe discloses a system for compensating hearing loss in a telephone system on an individual basis according to recognition of a dialing or dialed telephone number comprising a database for storage of an audio profile of the user, the audio profile describing the auditory capability of the user in relation to a plurality of audible frequencies (24; Figure 1; column 2, lines 30-35) ; an adaptation engine coupled to the database for receiving an audio representation selected by the user and modifying the audio representation according to the audio profile wherein the modifying assists the user in hearing the audio representation (signal processor , 20, 26; Figure 1-3; column 2, lines 38-44, 55-65) (column 3, lines 50-60).

All elements of **claim 10** are comprehended by claim 9 (column 2, lines 55-66).

All elements of **claim 11** are comprehended by claim 9 (Figures 2 and 3; column 3, lines 50-60).

All elements of **claim 13** are comprehended by claim 11 (50, frequency shaping function) (52, scaling module) (60, sub-band analysis filter) (Figures 2 and 3; column 3, lines 50-65; column 4, lines 46-56).

All elements of **claim 14** are comprehended by claim 14 (68, sub-band reconstruction filter; column 5, lines 1-5).

All elements of claim 15 are comprehended by claim 14 (2, lines 55-65).

Regarding **claim 16**, although Knappe does not specifically recite that the scaled audio data is presented by a computer for listening by the user, it inherent that a computer presents the audio data to the listener. Signal processors , 20 and 26, perform the processing. The signal process read on computers. A computer is defined as a device that computes. The compensated data that he listener hears is inherently presented by a computer.

All elements of **claim 17** are comprehended by claim 9.

All elements of **claim 18** are comprehended by claim 9.

Regarding **claim 20**, Knappe discloses a network audio adaptation server (column 2, lines 57-63) comprising a method for compensating hearing loss in a telephone system on an individual basis according to recognition of a dialing or dialed telephone number comprising a memory configured to store a personal audio profile of a listener , the audio profile describing the auditory capability of the user in relation to a plurality of audible frequencies (24; Figure 1; column 3, lines 15-18); a proxy configured to access an audio representation selected by the listener, the audio representation being in a digital format (telephone service provider; column 3 lines 6-19); a transformation module coupled to the memory and the proxy, configured to transform the audio representation into a frequency representation (signal processors 20 and 26) ; a scaling module couple to the transformation module, configured to scale the frequency representation based on the audio profile creating a scaled representation, whereby the transformation module is further configured to transform the scaled representation into the digital format (52; column 3, line 61-column 4, line 7); a transmitter (68; column 5, lines 1-5) for initiating delivery of the digital format scaled representation to a listener computing device (cellular phone; column 5, lines 9-14) via the network (column 2, lines 55-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 2,3 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knappe et al. (U.S. Patent 6,061,431) in view of Terry et al. (U.S. Patent 5,388,185).

Claim 2 claims the method of claim 1, wherein the step of creating an adapted representation comprises the steps of: converting the representation to a different data format than that in which it was accessed, creating a converted representation; transforming the converted representation to a frequency domain vector using a Fourier transform; scaling the frequency domain vector according to the audio profile, creating an adapted frequency domain vector; transforming the adapted frequency domain vector to an adapted time domain sample using an inverse Fourier transform; and converting the adapted time domain sample to a format for presentation. As stated above apropos of claim 1, Knappe meets all elements of that claim. Therefore, Knappe meets all elements of claim 2 with the exception of the claimed matter. Knappe teaches of converting the representation to a different format, scaling and transforming the data. He fails to teach of converting, transforming and scaling the data using a Fourier transform as claimed. Terry discloses a system for adaptive processing of telephone voice signals comprising converting, transforming the converted representation, scaling the frequency domain, transforming the adapted frequency domain vector and converting the adapted time domain as claimed. (Figure 2;column 2, lines 37-65) (column 6, lines 57-column7, line 2). Thus it would have been obvious to one of ordinary skill in the art to use Terry's method of creating an adapted representation in order to provide improved perception by the listener.

All elements of **claim 3** are comprehended by claim 2. Therefore claim 3, is rejected for reasons given above apropos of claim 2.

Claim 21 claims the server of claim 20, wherein the transformation module and the scaling module operate upon the representations in a batch process, whereby the scaled representation is of higher quality than is producible in a real-time process. As state above apropos of claim 20, Knappe meets all elements of that claim. Therefore, Knappe meets all elements of claim 21 with the exception of the clamed matter. Terry teaches of using the FFFT (Fast Fourier Transform) processing to perform transformation and scaling (Figures 1 and 2). The FFT is a batch-processing technique. The FFT is well known as an efficient, if not the most efficient processing technique. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use Terry's FFT processing in order to provide an improved perception to the listener.

5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knappe et al. (U.S. Patent 6,061,431) in view of Schroder et al. (U.S. Patent 4,942,607).

Claims 8 and 12 claim the method and system of claims 1 and 11 respectively wherein the adapted representation includes audio information representing a range of frequencies from 20 Hz to 20 kHz. As stated above apropos of claims 1 and 11, Knappe meets all elements of those claims. Therefore, Knappe meets all elements of claim 8 and 12 with the exception of the claimed matter. Schroder discloses that the human ear acts similar to a spectral analyzer using about 26 band-filters distributed over the hearable frequency range from 20 Hz to 20 kHz. Therefore, it would have been obvious to one of ordinary skill to have the audio representation include information representation a range of frequencies form 20 Hz to 20 kHz in order to cover all data that fell within the known hearable frequency range.

6. **Claims 7 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knappe et al. (U.S. Patent 6,061,431) in view of Platt (U.S. Patent 5,226,086).

Claim 7 claims the method of claim 6, wherein the audio profile is provided to the database by an audio testing agent through a network of computers. As stated above apropos of claim 6, Knappe meets all elements of that claim. Therefore, Knappe meets all elements of claim 7 with the exception of the claimed matter. Knappe discloses that the telephone provider is informed offline of the hearing compensation attributes determined from the hearing test (column 3, lines 4-9). Platt discloses an audio profile that provided to a database by an audio testing agent (column 9, lines 4-26). Therefore, it would have been obvious to have the audio profile sent by an audio testing agent who would be most familiar with the data and who could immediately transfer the data providing for a more efficient system.

Claim 19 claims the system of claim 9, wherein the audio profile is generated by and provided to the database by an audio testing agent through a computer network. As stated above apropos of claim 9, Knappe meets all elements of that claim. Therefore, Knappe meets all elements of claim 19 with the exception of the claimed matter. Knappe discloses that the telephone provider is informed offline of the hearing compensation attributes determined from the hearing test (column 3, lines 4-9). Platt discloses an audio profile that is generated by and provided to a database by an audio testing agent (column 9, lines 4-26). Therefore, it would have been obvious to have the audio profile sent by an audio testing agent who would be most familiar with the data and who could immediately transfer the data providing for a more efficient system.

7. **Claim 22** is rejected under 35 U.S.C. 102(e) as being anticipated by Knappe et al. (U.S. Patent 6,061,431).

Regarding **claim 22,** Knappe discloses a method of adapting audio according to a listener's auditory capability (a method for compensating hearing loss in a telephone system on an individual basis according to recognition of a dialing or dialed telephone number), comprising accessing a personal audio profile of the listener, the audio profile describing the auditory capability of the listener in relation to a plurality of audible frequencies (column 1, lines 40-50); accessing a digital representation of audible sound (column 3, lines 8-20; column 3, lines 50-60); and creating an adapted representation of audible sound by modifying the digital representation based on the audio profile to assist the listener in perceiving the audible sound (column 3, lines 30-35). Although, Knappe does not specifically state that a machine-readable medium having a program to execute the above named steps, it is obvious that there is a program that permits the processing because this is not standard processing done in a telephone. Thus it would have been obvious to one of ordinary skill in the art to have a program in order to have the capability to execute the processing.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,322,521 to Hou discloses a method and system for on-line hearing examination and correction

U.S Patent t4,284,847 to Besserman discloses audiometric testing, analyzing, and recording apparatus and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER